# Public Works (1906) Department.

**G.O., No.** 702 } 703 }

**DATED** 27.6. **1906.**

1

1 / 702-3

copy of G.O. letter with docket
copies of letter with docket
copies of letter at the back for the G of I
28/6/06

Dispatch 39

Order 39

**[Despatch Abstract.]**

...sion of irrigation on the Periyar Canal System

Letter from the G of I, forwarding copy of a note by the Inspector ...of Irrigation on the ——, conveyed to the S.E. VI circle with the remark that the investigations recommended by the former officer and the construction of the Regulator for the Periyar Right Bank Escape be proceeded with, and a letter intimating the action proposed to be taken by this Govt, ordered to be forwarded to the G of I.

Extension of irrigation on the Periyar Canal System

Informing the G of I that the investigations recommended by the I. G. of Irrigation in connection with the —— will be proceeded with, and stating that this Govt consider it undesirable to postpone the construction of the Regulator for the Periyar Right Bank Escape.

P. W. D.
100—19-5-05

Indexed

Indexed 3/7/06

[illegible]

தமிழ்நாடு ஆவணக்காப்பகம்
பாதுகாப்பு ( Prl ) பிரிவு　　பணி எண் :- 198/56

| | | |
|---|---|---|
| செப்பனிட்டவரின் பெயர் | : | P. ஈஸ்வரன் |
| ஆவணத்திலுள்ள மொத்த தாட்கள் | : | 39 |
| செப்பனிட்டு முடித்த நாள் | : | 9-9-2016 |
| செப்பனிட்டவரின் கையொப்பம் | : | |

-- சரிபார்க்கப்பட்டது --

16/9
பணி வழங்கிய எழுத்தர்
( Issue Clerk )

16/9
பிரிவுத் தலைவர்

9/9/16
பணி சரிபார்த்த எழுத்தர்
( Checking Clerk )

IRRIGATION.

# Government of Madras.

PUBLIC WORKS DEPARTMENT.

2

2/702-3

*Recd.* } 1906. *Enclosures*

*Regd.* *Spare copies*

## G.O., No. 702 I., 27th June 1906.

### Extension of irrigation on the Periyar Canal System

Letter from the Government of India forwarding copy of a note by the Inspector-General of Irrigation on the —, communicated to the Superintending Engineer, VI Circle, with the remark that the investigations recommended by the former officer and the construction of the regulator for the Periyár Right Bank Escape be proceeded with, and a letter intimating the action proposed to be taken by this Government, ordered to be forwarded to the Government of India.

GOVERNMENT OF MADRAS.

# PUBLIC WORKS DEPARTMENT.

## Irrigation.

READ—the following papers :—

I

### G.O., No. 1125 I., dated 13th October 1904.

ABSTRACT.—Forwarding, for the sanction of the Government of India, two alternative estimates for a regulator at the site of the Periyár right bank escape.

II

### G.O., No. 211 I., dated 24th February 1905.

ABSTRACT.—Communicating to the officers concerned letter from the Government of India sanctioning an estimate, amounting to Rs. 4,93,984, for the construction of a regulator at the site of the Periyár right bank escape.

III

### G.O., No. 1020 I., dated 28th October 1905.

ABSTRACT.—Ordering that a letter be sent to the Government of India submitting, with remarks, proposals for the development of power by Periyár water drawn up in conformity with the views of the Government of India.

IV

| | | | | | |
|---|---|---|---|---|---|
| To the Superintending Engineer, | VI Circle, | dated | 5th December 1903, | No. | 69 M.D. |
| From the ,, | VI ,, | ,, | 11th ,, | ,, ,, | 1014 M.D. |
| To the ,, | VI ,, | ,, | 24th ,, | ,, ,, | 71 M.D. |
| From the ,, | VI ,, | ,, | 29th January 1904 | ,, | 94 C.E. |
| To the ,, | VI ,, | ,, | 20th February ,, | ,, | 587. |

# V

*Letter*—from Mr. L. M. JACOB, C.S.I., Secretary to the Government of India, Public Works Department (Civil Works—Irrigation).
*To*—the Joint Secretary to the Government of Madras, Public Works Department, Irrigation Branch.
*Dated*—Simla, the 4th May 1906.
*No.*—575 I.

In continuation of this office letter No. 573 I., dated the 4th May 1906, I am directed to forward herewith copy of a note, dated the 26th March 1906, by the Inspector-General of Irrigation, on the extension of irrigation on the Periyár Canal system, and to request that, with the permission of His Excellency the Governor in Council, a preliminary report on the lines suggested therein may be furnished for the consideration of the Government of India.

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## ENCLOSURES.

*Note on extension of irrigation on the Periyár Canal System by Mr. J. Benton, C.I.E., Inspector-General of Irrigation, dated 26th March* 1906.

*Gross commanded area.*—This is 768,000 acres as shown in the Triennial Revenue report, paragraph 2, page 55.

2. *Commanded culturable area.*—The annexed statement A shows in full detail particulars of the commanded culturable area which is 121,308 acres.

3. *Forecast and realization.*—The following statement shows these for areas irrigated and for net revenues :—

| Year from completion in 1895. | Irrigated area. | | Net revenue. | | Percentage of net revenue on capital cost. |
|---|---|---|---|---|---|
| | Forecast. | Actuals. | Forecast. | Actuals. | |
| | ACRES. | ACRES. | RS. | RS. | |
| 1896–1897 .. .. .. .. .. | 19,262 | 67,051 | 10,681 | 66,215 | 0·80 |
| 1897–1898 .. .. .. .. .. | 38,503 | 94,015 | 62,136 | 1,22,013 | 1·42 |
| 1898–1899 .. .. .. .. .. | 57,744 | 109,025 | 1,13,591 | 1,43,730 | 1·65 |
| 1899–1900 .. .. .. .. .. | 76,985 | 129,232 | 1,65,046 | 2,16,933 | 2·47 |
| 1900–1901 .. .. .. .. .. | 96,246 | 142,869 | 2,16,501 | 3,02,738 | 3·43 |
| 1901–1902 .. .. .. .. .. | 115,467 | 153,862 | 2,84,956 | 3,42,312 | 3·84 |
| 1902–1903 .. .. .. .. .. | 134,708 | 154,068 | 3,53,411 | 3,27,587 | 3·64 |
| 1903–1904 .. .. .. .. .. | 153,949 | 152,614 | 4,21,866 | 3,54,941 | 3·86 |
| 1904–1905 .. .. .. .. .. | 173,190 | 156,634 | 4,90,321 | 3,80,565 | 4·08 |
| 1905–1906 .. .. .. .. .. | 192,431 | .. | 5,58,776 | .. | .. |

4. *Course of procedure.*—The foregoing particulars show as follows :—

(i) That irrigation operations are being carried on in 121,308 acres out of a gross commanded area of 768,000 so that a large extension of the former is possible if the water supply is available ; moreover it is very desirable to distribute the benefits of irrigation more widely.

(ii) That the irrigated areas show little increase in recent years, while they offer little promise under present conditions, of attaining the ultimate forecast of 192,431 acres.

(iii) That the actual irrigated areas and revenues are much lower than the forecast figures ; the falling off is found to be chiefly in first crop.

(iv) That double cropping is already carried on to a very undesirable extent, the area actually cultivated being only about 109,000 acres, while the irrigation in this area in the two crops attained 156,634 acres in 1904-1905. To attain the forecast area of 192,431 acres would require 77 per cent. of double cropping.

(v) Exhaustion of the soil is a fairly certain result of continuing present procedure. The Periyár water is not silt laden.

5. *Reservoir.*—The Chief Engineer in his note dated 28th October 1905 annexed to Secretary's letter No. 1021 I. of the same date, shows that there has averagely been 10,000 millions cubic feet of water passed into the escape, being in excess of what the reservoir will safely contain. To make the reservoir contain an extra supply the only work to be considered is the dam ; this can be strengthened and raised almost to any desired extent by a system of extended buttresses on the down stream side with horizontal arches supporting the existing dam and abutting against the long pier buttresses just mentioned.

6. *Lowering outlet.*—Mr. H. T. Keeling, Executive Engineer, has suggested the advisability of lowering the 2,600 feet approach channel to the tunnel to about R.L. 100 or 101 and that this level be carried through to the 5 or 6 feet fall at the head of the tunnel beyond the gate chamber—the two semi-circular tunnels beyond the sluice gate being closed. This work would according to Mr. Keeling cost Rs. 60,000 to Rs. 70,000. The advantages of carrying this out would be to admit of the reservoir idle water being drawn off to a lower level by about 9 feet than is now possible while the discharging capacity of the tunnel would also be increased. These are great advantages worth much more than the sums mentioned. I advise that the execution of this work may be dealt with along with others which I will detail below.

7. *Tunnel.*—The amount of water which the tunnel can pass is at present limited to 1,350 cusecs; it would however be a much simpler matter to lower the floor 2·5 to 3·0 feet than it was to drive the existing tunnel; the opening is now 12 feet wide and 8 feet high so that the capacity could be increased from 30 to 40 per cent. by lowering the floor by 2·5 and 3·0 feet, respectively.

8. *Possible extensions.*—There are additional areas which can be irrigated at the tail ends of most of the distributaries, and by extending the main canal itself. The gross commanded area is 768,000 acres as compared with 121,308 acres in which operations are now carried on.

9. *Unusually unfavourable years.*—The year ending 30th April 1905 was one of these, and the reservoir did not fill up to its recognised full supply level by 3·5 feet. The remedy for this may or may not be too costly, but it consists in increasing the catchment area, by diverting the upper portions of adjacent hill torrents into the Periyár basin by having recourse to dams, cuttings, tunnels and embankments; with dams and tunnels many obstacles can be overcome. It is believed that the Paradise river can be partly diverted and some diversions may be possible in the opposite direction.

10. *Storage site almost unique.*—Good storage sites are very difficult to procure and it is advisable to turn that at Periyár to the very best account. If the catchment area can be considerably increased the extra works will most probably prove very remunerative.

11. *Investigations recommended.*—I would recommend that investigations may be made to ascertain the following:—

(i) What extension of the catchment area is feasible, the probable run-off,—and the cost approximately?

(ii) What amount of raising would be required for the dam to admit of the reservoir safely containing the additional supply likely to be procurable from the extended catchment area, and what the approximate cost would be?

(iii) What enlargement of the tunnel would be required and what the cost is roughly estimated to be?

(iv) What enlargement of the culturable commanded area is feasible,—what additional supply could be utilized, and what is proposed for using that which is available?

12. *Preliminary report.*—I would suggest that the Madras Government may be asked to carry out the above investigations as early as possible, submitting a preliminary report accompanied by the necessary survey, particulars of works proposed, and an approximate estimate of probable cost,—revenue and returns on the expenditure.

13. *Escape regulator with Stoney's gates.*—If it is possible to increase the catchment area materially the height of reservoir full supply level would be raised, and with it the level of the top of the regulating gates. I would therefore advise that the regulator may not be constructed until the investigations above suggested are made, and until the question of ultimate expansion is finally decided on.

The work on the escape now in hand, should, in my opinion, stop at lowering of the saddle, a work which is approaching completion and for this reason may therefore be completed. The risk of carrying on for another year with the escape as it now is should, in my opinion, be run, since the escape is more efficient now as far as discharging capacity is concerned than it has been in the past nine years. To build the regulator before we are certain of the level at which the gates should be would in all probability result in waste of a large sum of money in raising the regulator hereafter.

14. *Facilities for inspection of the Periyár works.*—The usual course followed by officers inspecting the Periyár is to rail to Ammayanáyakkanúr and to proceed thence 69 miles by bullock cart to Koravanuth at the foot of the hills and 7 miles from the reservoir. After a long jolting journey of 69 miles by bullock cart Inspecting officers would find an inspection house at Koravanuth most serviceable. Many planters also proceed over this route. The quarters at Koravanuth consist of an old tool shed close to a village; they are barely good enough to be a stable, and the first question which presents itself to the traveller is whether it is feasible to sleep and have meals outside the unclean pest-stricken hovel. I would suggest that measures should be taken for obtaining a proper rest-house at this site.

J. BENTON,
*Inspector-General of Irrigation.*

# A

STATEMENT showing the culturable area commanded by the existing Periyár main and branch channels.

| Name of channel or reaches. | Government lands. | | | | | Total extent in Government lands (columns 2 + 3 + 4 + 5 + 6). | Extent as given in G.O., No. 1113 I., dated 19th December 1897. | Difference between columns 7 and 8. | Irrigable inam lands. | | Irrigable zamin lands. | | Total inam and zamin lands (columns 11 + 12 + 13 + 10). | Grand Total (column 7 + column 14). | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Old wet. | Wet waste. | Dry waste. | Irrigable patta dry. | Irrigable tank bed. | | | | Wet. | Irrigable dry. | Wet. | Irrigable dry. | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | ACS. | |
| First reach .. .. .. | 2,532 | .. | .. | 1,586 | 55 | 4,173 | 3,928 | + 155 | .. | .. | 138 | 12 | 150 | 4,328 | |
| First branch channel .. .. | 4,176 | 89 | 129 | 269 | 15 | 4,678 | 6,389 | — 1,711 | 522 | 281 | .. | .. | 803 | 5,481 | |
| Second reach .. .. .. | 405 | .. | .. | 161 | 135 | 701 | 832 | — 131 | 84 | 31 | .. | .. | 115 | 816 | |
| Second branch channel .. | 800 | 5 | 42 | 790 | 7 | 1,644 | 1,164 | + 480 | 443 | 290 | .. | .. | 733 | 2,377 | |
| Third reach .. .. .. | 826 | 8 | 38 | 1,108 | 84 | 2,064 | 1,832 | + 232 | 1,962 | 2,222 | 967 | 1,350 | 6,501 | 8,565 | |
| Third branch channel .. .. | 1,171 | .. | .. | 591 | 10 | 1,772 | 1,437 | + 335 | 408 | 99 | 552 | 750 | 1,809 | 3,581 | |
| Fourth reach .. .. .. | 280 | .. | .. | 94 | 42 | 416 | 191 | + 225 | .. | .. | .. | .. | .. | 416 | |
| Fourth branch channel .. | 4,543 | .. | .. | 3,072 | 612 | 8,227 | 8,945 | — 718 | 1,498 | 1,215 | .. | .. | 2,713 | 10,940 | |
| Fifth reach .. .. .. | 156 | .. | .. | 63 | .. | 219 | .. | + 219 | 57 | 12 | .. | .. | 69 | 288 | |
| Fifth branch channel .. .. | 804 | .. | .. | 353 | 44 | 1,201 | 1,397 | — 196 | 1,278 | 742 | .. | .. | 2,020 | 3,221 | |
| Sixth reach .. .. .. | 547 | .. | .. | 664 | 132 | 1,343 | 1,044 | + 299 | 27 | 223 | .. | .. | 250 | 1,593 | |
| Sixth branch channel .. .. | 859 | .. | .. | 1,005 | 142 | 2,006 | 2,098 | — 92 | 282 | 111 | .. | .. | 393 | 2,399 | |
| Seventh reach .. .. .. | 156 | .. | .. | 214 | 40 | 410 | 127 | + 283 | 89 | 29 | 180 | 170 | 468 | 878 | |
| Seventh branch channel .. | 234 | .. | .. | 232 | 13 | 479 | 522 | — 43 | .. | .. | 273 | 126 | 399 | 878 | |
| Eighth reach .. .. .. | 63 | .. | .. | .. | .. | 63 | 498 | — 436 | 31 | .. | .. | .. | 31 | 94 | |
| Eighth branch channel .. | 684 | .. | .. | 211 | 10 | 905 | 1,057 | — 152 | 511 | 248 | 521 | 137 | 1,417 | 2,322 | |
| Ninth reach .. .. .. | 37 | .. | .. | 328 | .. | 365 | .. | + 365 | 72 | 70 | 208 | 200 | 550 | 915 | |
| Ninth branch channel .. .. | 10,673 | 1,123 | 850 | 2,871 | 672 | 16,189 | 15,275 | + 914 | 2,740 | 2,573 | 278 | 230 | 5,821 | 22,010 | |
| Tenth reach .. .. .. | 75 | .. | .. | .. | .. | 75 | .. | + 75 | .. | .. | .. | .. | .. | 75 | |
| Tenth branch channel .. .. | 5,564 | 1,099 | 2,330 | 1,765 | 890 | 11,648 | 9,500 | + 2,148 | 1,770 | 1,850 | .. | .. | 3,567 | 15,215 | |
| Eleventh reach .. .. .. | 2,456 | .. | .. | 955 | 755 | 4,166 | 2,800 | + 366 | 67 | 30 | .. | .. | 97 | 4,263 | |
| Eleventh branch channel .. | 2,417 | 165 | | 1,657 | 456 | 4,695 | 3,500 | + 1,195 | 167 | 169 | .. | .. | 336 | 5,031 | |
| Twelfth branch channel .. | 9,401 | 2,586 | | 10,292 | 2,519 | 24,798 | 18,280 | + 6,518 | 669 | 160 | .. | .. | 829 | 25,627 | |
| Total .. | 48,859 | 8,464 | | 28,281 | 6,633 | 92,237 | .. | .. | 12,124 | 10,355 | 3,117 | 2,975 | 29,071 | 121,308 | |

## VI

Telegram to the Superintending Engineer, VI Circle, dated 17th May 1906, No. 82–O.
Memorandum to " VI " " 19th " " " 1823.
Telegram to the " VI " " 29th " " " 108–O.

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## VII

*Letter*—from A. R. DeChazal, Esq., Executive Engineer, Madura Division.
*To*—the Superintending Engineer, VI Circle, Trichinopoly.
*Dated*—Madura, the 28th May 1906.
*No.*—379 S.E.

With reference to your No. 1638, dated 4th May 1906, I have the honour to enclose copy of Sergeant Whittaker's report. The levels and levelling books are incomplete and of no value in their present state.

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Enclosures.

### *Pambaar Investigation Works.*

The Pambaar river which it is proposed to turn into Periyár lies due south of the Periyár dam. To get to it, one has to go up a creek known as the "salt bell creek" by boat as far as possible and thence by a three feet path. The country passed through up to about 3 miles from landing place is more or less grass land, except along streams where path crosses. The path then passes through a forest for about 1¼ mile long. Then a stretch of about 1½ miles grass land and then forest till the Pambaar is reached. The streams along the route are first at 2/3900 Kallar stream just below and south of Dera Mali camp which is opposite 2/2000. This is a fairly good sized stream and can easily be directed. Levels to the most convenient site for a dam at head of the precipice have been taken but not plotted.

*Second stream.*—This is known as the Ghava river and is on the opposite side of gorge to Pambaar.

*Third stream*—is known as the Meen or fish river and is at the head of gorge and about one mile north of Pambaar. The route (path) has been surveyed by prismatic compass. Triangulation is being done by theodolite. The base line is the Periyár dam. Flagstaffs have been put up at all theodolite stations. Triangulation can only be done for about one mile wide, along the path. The country east of this one mile wide but being dense forest, so the Water-shed boundary line through forest will have to be surveyed by prismatic compass or plane table.

Levels have been taken (i) along the path leading to Pambaar; (ii) dam site Kallar stream; (iii) along Perunial stream at 1/2000 from Pambaar; (iv) from Meen river low saddle in path, along path leading to head of gorge; (v) along path leading up Pambaar river to a suitable dam site a cross section of which is also taken; (vi) a cross section of site for a small dam below Pambaar camp; (vii) section of dam site at Pambaar camp.

Survey along path has been plotted also Theodolite stations and part of water-shed line of Kallar stream.

For Kallar river (stream No. 1) the jungle along water-shed boundary line has been cut on both sides of river but not completed. It will be best to complete this from the south side of the stream by building cooly lines on Aru Malai. These lines previously built have been destroyed by elephants.

The jungle along water-shed boundary lines from Ghava river has been completed, eighth water-shed line of Meenar being the north water-shed line of Pambaar. All work for jungle clearing has been paid for.

*Camp.*—There are two camps, one at Dera Malli, 6 miles from Periyár, the other at Pambaar. There are cooly lines at each camp.

The four watchmen have been paid up to the end of July. They are responsible for the tools, kept at each camp. Mr. S. Wood, driver at Periyár, can give the names of the men and other information. One Sakkan of Gudi has been ordered to repair Pambaar camp. Mr. S. Wood, driver at Periyár, has been ordered to keep a muster roll and to make every necessary arrangements to get the work done as Superintending Engineer and Executive Engineer are expected shortly. Paths want repairing very badly. Rafts for crossing Pambaar river should be made. Mr. S. Wood should be ordered to get mannans to clear the jungle fallen down along the path. Mannans will not do earth work, but only jungle cutting and hut building. Two men, one Peermeera Levi and Nagoor Rowthen, brother of Gudalore know the country well and can give a lot of information.

J. Whittaker, Sergeant,
*Supervisor, Public Works Department.*

*10th August* 1903.

No. 702 I., 27TH JUNE 1906. 

*No. 303 C.E., dated 31st May 1906.*

Forwarded to the Chief Engineer for Irrigation with reference to his letters, No. 1477, dated 30th April 1906, and No. 1823, dated 19th May 1906.

I have been informed by Mr. DeChazal that this report of Sergeant Whittaker is the only paper extant on the question of the diversion of the Paradise river.

I shall be at Thekadi for two days next month—11th and 12th—and will then make further inquiries myself.

S. B. MURRAY,
*Superintending Engineer, VI Circle.*

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## VII

Telegram from the Superintending Engineer, VI Circle, dated 4th June 1906.

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**Order—No. 702 I., dated 27th June 1906.**

The letter from the Government of India read above will be communicated to the Superintending Engineer, VI Circle, for necessary attention with the following remarks :—

*Paragraphs* 1–11 *of the Inspector-General's note.*—A proposal for diverting the Paradise river and increasing the catchment of the Periyár lake by about 60 square miles was partially investigated in 1903 and left incomplete. It was ordered last year by the Chief Engineer for Irrigation that the scheme was not to be further investigated, but from recent inquiries it is understood that the conclusions on which this order was based are not fully established. The Superintending Engineer is accordingly requested to apply for the necessary establishment to complete the investigation.

2. Pending further orders the construction of the regulator for the Right Bank Escape should be proceeded with.

3. The following letter will be sent.

[Here enter No. 703 I., dated 27th June 1906.]

(True Extract.)

C. A. SMITH,
*Ag. Joint Secretary to Government,*
*Irrigation Branch.*

To the Chief Engineer for Irrigation.
,, Superintending Engineer, VI Circle.
,, Examiner, Public Works Accounts.
,, Revenue Department.

Forwarded to the

(By order.)

*Ag. Deputy Registrar.*

IRRIGATION.

# Government of Madras.

PUBLIC WORKS DEPARTMENT.

6/702-3 6

*Recd.* } 1906. *Enclosures*

*Regd.* *Spare copies*

## Letter, No. 703 I., 27th June 1906.

### Extension of Irrigation on the Periyar Canal System

Informing the Government of India that the investigations recommended by the Inspector-General of Irrigation in connection with the — will be proceeded with, and stating that this Government consider it undesirable to postpone the construction of the regulator for the Periyár Right Bank Escape.

# PUBLIC WORKS DEPARTMENT.

**Irrigation.**

Letter—from

C. A. SMITH, Esq.,

*Ag. Joint Secretary to the Government of Madras,*

*Public Works Department,*

*Irrigation Branch,*

To

The SECRETARY to the GOVERNMENT of INDIA,

Public Works Department, Simla.

Sir,

I am directed to acknowledge the receipt of letter No. 575, dated 4th May 1906, enclosing a note by the Inspector-General of Irrigation and to reply as follows.

2. The investigations suggested by the Inspector-General in paragraphs 1 to 11 of his note will be carried out and as soon as they are completed a preliminary report with the particulars mentioned in paragraph 12 will be submitted to the Government of India.

3. With reference to the suggestion of the Inspector-General in paragraph 13 that the execution of the right bank escape regulator should be deferred until the above investigations have been completed and the question of ultimate expansion has been finally decided, I am to state that this Government consider it undesirable to postpone the construction of the work for the following reasons :—

The regulator has been sanctioned—

(*a*) to provide additional escape power for floods, the present escape being considered insufficient ;

(*b*) to provide additional storage and enable cultivation to be extended by 10,000 acres.

4. In the event of its being decided to raise the main dam the construction of the regulator would have to be deferred not for another year only, but until the raising of the dam had actually been completed which would be probably not less than five years, during the whole of which time the risk of destruction of the dam would have to be run.

5. The design of the regulator is such that there will be no great difficulty in rebuilding it at a higher level whenever the necessity arises and the cost of doing so will in the meantime have been probably repaid several times over by the value of the extra storage obtained. Even if this were not the case, this Government is of opinion that in view of the importance of the interests involved, the cost of rebuilding the work will be amply justified if considered in the light of insurance paid for the safety of the main dam.

I have the honour to be,

Sir,

Your most obedient servant,

C. A. SMITH,

*Ag. Joint Secretary to Government,*

*Irrigation Branch.*

Ootacamund,

27*th June* 1906

3000—30-7-01.

1

7

# Public Works (1903.) Department.

6961 7/7092-3

**CURRENT No.** ~~120 In. D.~~

*From*

*[Name]* C. J. U S S H E R Escuire.,

*[Designation]* Superintending Engineer, VI Circle,

*[Station]* Trichinopoly.

Re. *No.* 1014 Ind./03

*Dated* 11th December 1903.

*Enclosures* {*Plans* / *Others* 2} *Total* 2

*Spare copies*

*Received* 13. 12. 1903.

*Registered* ~~14. 12. 1903.~~

26-6-06

SUBJECT.

Periyar Extension Scheme.

Resubmitting the 1st form progress report for Investigation together with the last years' report. S.E. does not say why no work has been done since July.

Inst D. E. I.
14/12/03

E. I.

BACK PAPERS.

I 69 Irr. D.-07th-12-03

Ask him to explain and also to furnish information asked for. ~~In the~~ last page of the P.R. expenditure has been shown since July although no work has been done. [illegible]

FURTHER PAPERS.

To

The ~~Secretary to Government~~ Chief Engineer ~~Public Works Department~~

For Irrigation.

Sir,

Returning the B Form Progress Reports for investigation in connection with the Periyar Extension Scheme with [illegible] marginal [illegible]

With reference to your memo No.VI/69-M.D. dated -- 5th Instant, I have the honor to resubmit herewith the B.Form Progress Report, for investigating purposes, Periyar Extension Scheme, with the last year's Report.

I have the honor to be,

Sir,

Your most obedient servant,

[signature]

Superintending Engineer,

VI Circle.

[initials] 11.12.13

Enclosures:-

2 B.Form Progress Reports.

3

[C. No. 120 M.D.]

Enclos 2

8/9/03 2

PUBLIC WORKS DEPARTMENT,
IRRIGATION BRANCH.

Memo. Fm. VI / 71 M.D.

In returning herewith, the B. Form Progress report of the work "Investigating the Periyar Extension Scheme" received with letter No. 1014 M.D. d/ 11th Decr. 1903 from the Supdg. Engr, 6th Circle, the undersigned has the honour to request that the S.E. will be so good as to report why no work has been done since July last, and to furnish the information asked for in the progress report.

2. It is observed that in the last page of the progress report expenditure has been shown since July although no work has been done.

[illegible]
16/12/03

To,
The S.E.
6th Circle
[illegible] 18.12.03

Stock Form No. 154
5,000—21-7-03.

4

9/[illegible] 9

# Public Works (1904) Department.

## CURRENT No. ~~[illegible]~~ 6962

*From*

[*Name*] C. J. Ussher Esqre.

[*Designation*] Superintending Engineer, Sixth Circle

[*Station*] Ootacamund

*No.* 94 C E

*Dated* 29 January 1904
Recd 2 February "

*Enclosures* { *Plans* / *Others* 2 } *Total.* Two

*Spare copies* ________

*Received* 4. 2. 1904.

*Registered* 4. 2. 1904.

*Passed on, by—*

*Registering Clerk* 26-6- 1906

*U. R. Clerk* ________ 190 .

*Referencer* ________ 190 .

*Record Supdt.* ________ 190 .

*Drafting Officer* ________ 190 .

SUBJECT.

Investigating the Periyar Extension Scheme. Submitting copy of letter from the Executive Engineer, Madura Division, for information, explaining why no work was done in —

BACK PAPERS.

| | |
|---|---|
| [illegible] 71-M.D.-d/24-12-03. | Papers [illegible] |

FURTHER PAPERS.

| | |
|---|---|
| | [illegible] |

To

The ~~Secretary to Government~~ Chief Engineer, ~~Public Works Department~~ for Irrigation.

Madras.

Sir,

5 10/402-3 10 409 4-2-04

Copy of a communication No.52-S.E. dated 25th January 1904, from M.R.Ry, A.V.Ramalinga Aiyar Avergal., -- Executive Engineer, Madura Division, to the Superintending Engineer, VI Circle.

1 With reference to your No.66 dated 2/5th January - 1904, I have the honor to inform you that Sergeant J. - Whittaker who was in charge of this work was asked by - Mr.Keeling to look after the Observatory Works at Kodaikanal as the subordinate in charge of that section fell ill and as no other subordinate was available to look - after the latter work. As Sergeant J.Whittaker was fully engaged at Kodaikanal, he could not find time to attend to the investigation of Periyar Extension Scheme until he was relieved to join Salem Division in August 1903.

2 The outlay incurred since July 1903 represents the charges incurred in clearing jungle and keeping the --- paths clear of weeds &c., repairing temporary huts put up for inspection purposes and borings taken to find nature of soil in some places.

3 It has not been found possible to spare the services of a subordinate or officer with some experience for this work and M.R.Ry, C.R.Gopalaswamy Deikshathar who was -- posted from Periyar Sub Division was not able to do anything during his stay of two months. He fell ill and - has been on leave on Medical Certificate for the last - two months. He has applied for further extension and a letter of cognizance has been sent to the District Surgeon, Tanjore at his request. Conductor Slaney recently posted to this Division has been ordered to relieve Mr. Nilakunta Sastrigal. I have not been able to take up this subject as my time was fully occupied since my relief from the Peranai Suit during September 1903, in inspecting Porandalar Project, Kodaikanal Works and other parts of the Madura Division, i.e., works in Dindigul - and Madura Sub Divisions in order to arrange for spending

grants &c.

4 I inspected the Kallar and Pambyar valleys on the 17th Instant and I found that by constructing 4 masonry dams from 70 to 100 feet high and by tunnelling for a length of from - 4 to 6 miles it is possible to divert the streams into the -- Periyar lake. If the scheme should be investigated further a European subordinate should be posted.

5 I have deputed Overseer T.V.Subramania Iyer for investigating the Mela Gudalur Reservoir Scheme since the beginning of this month and I shall submit at an early date a rough -- estimate for a suitable reservoir to hold 4000 Millions Cubic feet with bund not exceeding 30 feet except at the crossing - of the Vyravanar river.

----------

No. 94 CE Encls:- 2.

Copy submitted to the Chief Engineer for Irrigation for information with reference to his memorandum No.VI/71-M.D. - dated 24th December 1903.

2. The B.Form Progress Reports of the work in question - are herewith forwarded.

Supdg:Engineer's Office,
6th Circle,
Dated 29 January 1904.
Desp 3rd February 1904

Superintending Engineer,
VI Circle.

J7

11/702

Periyar Extension Scheme

Current No. 409

D. E. I.

For orders.

The S.E. has not given his opinion on the suggestion of the E.E. that "if the scheme of diverting the Kallar and Pambyar streams into the Periyar lake is to be investigated further a European subordinate should be posted."

[signature]
5/2/04.

E.I.

Please see your remark in the [illegible] from Progress report under date 3/12/03

[signature]
10/2/04

If the information given in para 4 of the E.E.'s letter is correct it is difficult to understand why so large an outlay was required to show the hopelessness of the scheme. The investigation should be closed at once.

[signature]
11.2.04

8

C. No. 409.

12/7092-3 No 587 d/20.2.04

Memo. 12

With reference to endorsement No. 94 C.E. dated 29th January 1904 of the Superintending Engineer, VI Circle, the undersigned has the honour to state that if the information given in para 4 of the Executive Engineer's letter is correct, it is difficult to understand why so large an outlay was required to show the hopelessness of the scheme. The investigation should be closed at once.

Fair

Encs 2 P. Reports

20/2/04

Despd
23.2.04

To the Supg. Engineer, VICircle.
(with 2 Progress Reports retd)

INDEXED.

19.2.04

1

9

Stock Form No. 141
2,000—3-11-05.

# PUBLIC WORKS DEPARTMENT.

## Irrigation Branch.

13/702 13

6965

Current No. ~~5746~~

ENCLOSURES. { Plans No.
Others No.
Total

SPARE COPIES.

Received 10. 5 1906.

Registered 14. 5 1906.

Passed on by Registering Clerk ... 26-6-06

" " U. R. Clerk ...

" " Record-keeper ...

" " Drafting Officer ...

Printed as G.O. No. 2030 I, dated 8-7-06 (I)

Subject.

Extension of irrigation in the Periyar Project —
Forwarding copy of a note by the Inspector General of Irrigation on the — and requesting that a preliminary report on the lines suggested may be forwarded

No. 5759

Station Simla , Dated the 4 May 1906.

From (Name) The Govt of India

(Designation) P W D

To The Chief Engineer / The Joint Secretary to the Government of Madras,
Public Works Department,
Irrigation Branch.

Sir,

76

w'

20

All communications should be addressed to the Secretary to the Government of India, Public Works Department, by *title* NOT by *name*.

No. 575 I. 143 P.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT. 14/9023

CIVIL WORKS
Irrigation

FROM

MR. L. M. JACOB, C.S.I.,
SECRETARY TO THE GOVERNMENT OF INDIA,
PUBLIC WORKS DEPARTMENT,

To

The Joint Secretary to the Government of Madras,
Public Works Department, Irrigation Branch.

Simla, the 4th May 1906.

Sir,

In the linked file (No 1) Nos 8 file

In continuation of this office letter No. 573 I., dated the 4th May 1906, I am directed to forward herewith copy of a note, dated the 26th March 1906, by the Inspector General of Irrigation, on the extension of irrigation on the Periyar Canal System, and to request that with the permission of His Excellency the Governor in Council, a preliminary report on the lines suggested therein may be furnished for the consideration of the Government of India.

I have the honour to be,
Sir,
Your most obedient servant,
G. Stanley 4/5
Under Secy. to the Govt. of India.

Documents accompanying:-

Copy of Inspector General of Irrigation's Note referred to.

8

Note on extension of irrigation on the Periyar Canal System by Mr. J. Benton, C.I.E., Inspector General of Irrigation, dated 26th March 1906.

---------ooO@Ooo---------

GROSS COMMANDED AREA. This is 768,000 acres as shown in the Triennial Revenue Report paragraph 2 page 55.

2. COMMANDED CULTURABLE AREA. The annexed statement A shows in full detail particulars of the commanded culturable area which is 121,308 acres.

3. FORECAST AND REALIZATION. The following statement shows these for areas irrigated and for net revenues :-

| Year from completion in 1895. | Irrigated Area | | Net revenue. | | Percentage of net revenue on Capital cost. |
|---|---|---|---|---|---|
| | Forecast. | Actuals. | Forecast. | Actuals. | |
| | Acres | Acres | Rs | Rs | |
| 1896-97 | 19,262 | 67,051 | 10,681 | 66,215 | 0.80 |
| 1897-98 | 38,503 | 94,015 | 62,136 | 1,22,013 | 1.42 |
| 1898-99 | 57,744 | 109,025 | 1,13,591 | 1,43,730 | 1.65 |
| 1899-00 | 76,985 | 129,232 | 1,65,046 | 2,16,933 | 2.47 |
| 1900-01 | 96,246 | 142,869 | 2,16,501 | 3,02,738 | 3.43 |
| 1901-02 | 115,467 | 153,862 | 2,84,956 | 3,42,312 | 3.84 |
| 1902-03 | 134,708 | 154,068 | 3,53,411 | 3,27,587 | 3.64 |
| 1903-04 | 153,949 | 152,614 | 4,21,866 | 3,54,941 | 3.86 |
| 1904-05 | 173,190 | 156,634 | 4,90,321 | 3,80,565 | 4.08 |
| 1905-06 | 192,431 | - | 5,58,776 | - | - |

4. COURSE OF PROCEDURE. The foregoing particulars show as follows:-

(i) That irrigation operations are being carried on in 121,308 acres out of a gross commanded area of 768,000 so that a large extension of the former is possible if the water supply is available; moreover it is very desirable to distribute the benefits of irrigation more widely.

(ii) That the irrigated ~~acres~~ areas show little increase in recent years, while they offer little promise under

present

X 12

present conditions, of attaining the ultimate fore-cast of 192,431 acres. 16/702-5 16 55.P

(iii) That the actual irrigated areas and revenues are much lower than the forecast figures; the falling off is found to be chiefly in first crop.

(iv) That double cropping is already carried on to a very undesirable extent, the area actually cultivated being only about 109,000 acres, while the irrigation in this area in the two crops attained 156,634 acres in 1904-05. To attain the forecast area of 192,431 acres would require 77 per cent of double cropping.

(v) Exhaustion of the soil is a fairly certain result of continuing present procedure. The Periyar water is not silt laden.

Flag A

5. RESERVOIR. The Chief Engineer in his note dated 28th October 1905 annexed to Secretary's letter No.1021 I.of the same date, shows that there has averagely been 10,000 millions cubic feet of water passed into the escape, being in excess of what the reservoir will safely contain. To make the reservoir contain an extra supply the only work to be considered is the dam; this can be strengthened and raised almost to any desired extent by a system of extended buttresses on the down stream side with horizontal arches supporting the existing dam and abutting against the long pier buttresses just mentioned.

What a barbarism

6. LOWERING OUTLET. Mr.H.T.Keeling, Executive Engineer has suggested the advisability of lowering the 2600 feet approach channel to the tunnel to about RL 100 or 101 and that this level be carried through to the 5 or 6 feet fall at the head of the tunnel beyond the gate chamber, - the two semicircular tunnels beyond the sluice gate being closed. This work would according to Mr.Keeling cost Rs.60,000 to Rs.70,000. The advantages of carrying this out would be to admit of the reservoir idle water being drawn off to a lower level by about 9 feet than is now possible while the discharging capacity

60

of

of the tunnel would also be increased. These are great advantages worth much more than the sums mentioned. I advise that the execution of this work may be dealt with along with others which I will detail below.

7. TUNNEL. The amount of water which the tunnel can pass is at present limited to 1,350 cusecs; it would however, be a much simpler matter to lower the floor 2.5 to 3.0 feet than it was to drive the existing tunnel; the opening is now 12 feet wide and 8 feet high so that the capacity could be increased from 30 to 40 per cent by lowering the floor by 2.5 and 3.0 feet respectively.

8. POSSIBLE EXTENSIONS. There are additional areas which can be irrigated at the tail ends of most of the distributaries, and by extending the main canal itself. The gross commanded area is 768,000 acres as compared with 121,308 acres in which operations are now carried on.

9. UNUSUALLY UNFAVOURABLE YEARS. The year ending 30th April 1905 was one of these, and the reservoir did not fill up to its recognised full supply level by 3.5 feet. The remedy for this may or may not be too costly, but it consists in increasing the catchment area, by diverting the upper portions of adjacent hill torrents into the Periyar basin by having recourse to dams, cuttings, tunnels and embankments; with dams and tunnels many obstacles can be overcome. It is believed that the Paradise river can be partly diverted and some diversions may be possible in the opposite direction.

10. STORAGE SITE ALMOST UNIQUE. Good storage sites are very difficult to procure and it is advisable to turn that at Periyar to the very best account. If the catchment area can be considerably increased the extra works will most probably prove very remunerative.

11. INVESTIGATIONS RECOMMENDED. I would recommend that investigations may be made to ascertain the following:-

(i) What extension of the catchment area is feasible, the probable run-off, - and the cost approximately

(ii)

18 / 702-3

(ii) What amount of raising would be required for the dam to admit of the reservoir safely containing the additional supply likely to be procurable from the extended catchment area, and what the approximate cost would be ?

(iii) What enlargement of the tunnel would be required and what the cost is roughly estimated to be ?

(iv) What enlargement of the culturable commanded area is feasible, - what additional supply could be utilized, and what is proposed for using that which is available ?

12. PRELIMINARY REPORT. I would suggest that the Madras Government may be asked to carry out the above investigations as early as possible, submitting a preliminary report accompanied by the necessary survey, particulars of works proposed, and an approximate estimate of probable cost, - revenue, and returns on the expenditure.

13. ESCAPE REGULATOR WITH STONEY'S GATES. If it is possible to increase the catchment area materially the height of reservoir full supply level would be raised, and with it the level of the top of the regulating gates. I would therefore advise that the regulator may not be constructed until the investigations above suggested are made, and until the question of ultimate expansion is finally decided on.

The work on the escape now in hand, should in my opinion stop at lowering of the saddle, a work which is approaching completion and for this reason may therefore be completed. The risk of carrying on for another year with the escape as it now is should in my opinion be run, since the escape is more efficient now as far as discharging capacity is concerned than it has been in the past nine years. To build the regulator before we are certain of the level at which the gates should be, would in all probability result in waste of a large sum of money in raising the regulator hereafter.

14. FACILITIES FOR INSPECTION OF THE PERIYAR WORKS. The usual

12

usual course followed by officers inspecting the Periyar is to rail to Ammayanaickanur and to proceed thence 69 miles by bullock cart to Koravanuth at the foot of the hills and 7 miles from the reservoir. After a long jolting journey of 69 miles by bullock cart inspecting officers would find an inspection house at Koravanuth most serviceable. Many planters also proceed over this route. The quarters at Koravanuth consist of an old tool shed close to a village; they are barely good enough to be a stable, and the first question which presents itself to the traveller is whether it is feasible to sleep and have meals outside the unclean pest stricken hovel. I would suggest that measures should be taken for obtaining a proper rest house at this site.

Sd. J.Benton.
Inspector General of Irrigation.

13

Statement showing the culturable area commanded by the existing Periyar Main and Branch channels A.

| Name of channel or reaches | Government lands: Old Wet | Wet waste | Dry waste | Irrigable puttah dry | Irrigable tank bed | Total extent in Govt. lands cols. 2+3+4+5+6 | Extent as given in G.O. No 1113 of 19-12-97 | Difference between cols 7 and 8 | Irrigable Inam lands: Wet | Irrigable dry | Irrigable Zamin lands: Wet | Irrigable dry | Total Inam and Zamin lands cols. 11+12+13+10 | Grand Total Col. 7+Col. 14 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| First Reach | 2532 | . | " | 1586 | 55 | 4173 | 3928 | + 155 | . | . | 138 | 12 | 150 | 4323 | |
| First Branch Chal. | 4176 | 89 | 129 | 269 | 15 | 4678 | 6389 | − 1711 | 522 | 281 | . | . | 803 | 5481 | |
| 2nd Reach | 405 | . | . | 161 | 135 | 701 | 832 | − 131 | 84 | 31 | . | . | 115 | 816 | |
| 2nd Branch Chal | 800 | 5 | 42 | 790 | 7 | 1644 | 1164 | + 480 | 443 | 290 | . | . | 733 | 2377 | |
| 3rd Reach | 826 | 8 | 38 | 1108 | 84 | 2064 | 1832 | + 232 | 1962 | 2222 | 987 | 1350 | 6501 | 8565 | |
| 3rd Branch Chal | 1171 | . | . | 591 | 10 | 1772 | 1437 | + 335 | 408 | 99 | 552 | 750 | 1809 | 3581 | |
| 4. Reach | 280 | . | . | 94 | 42 | 416 | 191 | + 225 | . | . | . | . | . | 416 | |
| 4. Branch chal | 4543 | . | . . | 3072 | 612 | 8227 | 8945 | − 718 | 1498 | 1215 | . | . | 2713 | 10940 | |
| 5. Reach | 156 | . | . | 63 | . | 219 | . | + 219 | 57 | 12 | . | . | 69 | 288 | |
| 5. Branch chal | 804 | . | . | 353 | 44 | 1201 | 1397 | − 196 | 1278 | 742 | . | . | 2020 | 3221 | |
| 6. Reach | 547 | . | . | 664 | 132 | 1343 | 1044 | + 299 | 27 | 223 | . | . | 250 | 1593 | |
| 6. Branch chal | 859 | . | . | 1005 | 142 | 2006 | 2098 | − 92 | 282 | 111 | . | . | 393 | 2399 | |
| 7. Reach | 156 | . | . | 214 | 40 | 410 | 127 | + 283 | 89 | 29 | 180 | 170 | 468 | 878 | |
| 7. Branch chal | 234 | . | . | 232 | 13 | 479 | 522 | − 43 | . | . | 273 | 126 | 399 | 878 | |
| 8. Reach | 63 | . | . | . | . | 63 | 498 | − 436 | 31 | . | . | . | 31 | 94 | |
| 8. Branch chal | 684 | . | . | 211 | 10 | 905 | 1057 | − 152 | 511 | 248 | 521 | 137 | 1417 | 2322 | |
| 9. Reach | 37 | . | . | 328 | . | 365 | . | + 365 | 72 | 70 | 208 | 200 | 550 | 915 | |
| 9. Branch chal | 10673 | 1123 | 850 | 2871 | 672 | 16189 | 15275 | + 914 | 2740 | 2573 | 278 | 230 | 5821 | 22010 | |
| 10. Reach | 75 | " | " | " | . | 75 | . | + 75 | . | . | . | . | . | 75 | |
| 10. Branch chal | 5564 | 1099 | 2330 | 1765 | 890 | 11648 | 9500 | + 2148 | 1770 | 1850 | . | . | 3567 | 15215 | |
| 11. Reach | 2456 | . | . | 955 | 755 | 4166 | 2800 | + 366 | 67 | 30 | . | . | 97 | 4263 | |
| 11. Branch chal | 2417 | 165 | | 1657 | 456 | 4695 | 3500 | + 1195 | 167 | 169 | . | . | 336 | 5031 | |
| 12. Branch chal | 9401 | 2586 | | 10,292 | 2519 | 24798 | 18280 | + 6518 | 669 | 160 | . | . | 829 | 25627 | |
| Total | 48859 | 8464 | | 28281 | 6633 | 92237 | . | | 12124 | 10355 | 3117 | 2975 | 29071 | 121308 | |

~~V~~ 18

21
702-3

PUBLIC WORKS DEPARTMENT,

IRRIGATION BRANCH. 2

No 82.6 d 17.5.06

SE VIth circle

Despd
17.5.06

Please send any papers available re diversion Paradise river into Periar

[illegible signature]
17/5/06.

I. I. Form No. 2—5 0—22-3-05.

2 10 19

22

Madras, 19. 5 1906.

From

29/702-3

C. A. SMITH Esq.,

Ag. Chief Engineer for Irrigation,

No. 1823

**MEMORANDUM.**

*Enclosures*

The Supg. Engineer, VI Circle, is requested to be so good as to report at a very early date whether the papers and levels connected with the diversion of the Paradise river into the Periyar have been found and whether any further information is now available as to the feasibility of the scheme.

(By Order)

[signature] 19.5.06

Manager,

Office of the Chief Engineer for Irrign.

To

The Supg. Engineer, VI Circle.

DESPATCHED
DATE 19.5.1906
ENCLOS.........

Copy 8/VI 20

23

23/702-3

108-0 dated 29-5-06

Telegram to the Supg.Engineer VI Circle.

"Please expedite submission of - Paradise river diversion papers called for on 17th and 19th instants and -- meantime report by wire result of enquiries".

(Ind) C.A.S.
29-5-06

# Pambaar Investigation Works.

The Pambaar river which it is proposed to turn into Periyar lies due south of the Periyar dam. To get to it, one has to go up a creek known as the "salt bell creek" by boat as far as possible and thence by a 3 feet path. The country passed through up to about 3 miles from landing place is more or less grass land, - except along streams where path crosses. The path then passes through a forest for about 1¼ mile long. Then a stretch of about 1½ miles grass land and then forest till the Pambaar is reached The streams along the route are 1st at 2/3900 Kallar stream just below and south of Dera Mali camp which is opposite 2/2000. This is a fairly good sized stream and can easily be directed. Levels to the most convenient site for a dam at head of the precipice have been taken but not plotted.

2nd stream- this is known as the Ghava river and is on the - opposite side of gorge to Pambaar.

3rd stream is known as the Meen or fish river is at the - head of gorge and about 1 mile north of Pambaar. The route (path) has been surveyed by prismatic compass. Triangulation is being done by Theodolite. The base line is the Periyar dam. Flag - ~~staff~~ staffs have been put up at all theodolite stations. Triangulation can only be done for about 1 mile wide along the path. The country east of this one mile wide but being dense forest, so the W.S.B.line through forest will have to be surveyed by Prismatic compass or plane table.

Levels have been taken(I)along the path leading to Pambaar II.Dam site Kallar stream.III Along Perunial stream at 1/2000 from Pambaar. IV.From Meen river low saddle in path, along path leading to head of gorge V.Along path leading up Pambaar river to a suitable dam site at cross section of which is also taken VI. A cross section of site for a small dam below Pambaar camp. VII. Section of dam site at Pambaar camp.

Survey along path has been plotted also Theodolite stations and part of W.S.line of Kallar stream.

For Kallar river (Stream No.1) the jungle along water shed boundary line has been cut on both sides of river but not completed.

It will be best to complete this from the south side of the stream by ~~levelling~~ building cooly lines on Aru Malai. These lines previously built have been destroyed by elephants.

The jungle along water-shed boundary lines from Ghava river has been completed. The 5th Water-shed line of Meenar being the north W.S.L. of Pambaar. All work for jungle clearing has been paid for.

Camps. There are two camps, one at Dera Malli, 6 miles from Periyar the other at Pambaar There are cooly lines at each camp.

The four watchmen have been paid up to the end of July. They are responsible for the tools kept at each camp. Mr.S.Wood Driver at Periyar can give the names of the men and other information. One Sakkan of Gudi has been ordered to repair Pambaar camp. Mr.S.Wood, Driver at Periyar has been ordered to keep a Muster Roll and to make every necessary arrangements to get the work done as S.E. and E.E. are expected shortly. Paths want repairing very badly. Rafts for crossing Pambaar river should be made. Mr.S.Wood should be ordered to get mannans to clear the jungle fallen down along the paths. Mannans will not do earth work but only jungle cutting and hut building. Two men, one Peermeera Levi and Nagoor Rowthen brother of Gudalore know the country well and can give a lot of information.

Sd/:-Sergeant J.Whittaker,

Supervisor, P.W.D.

10. 8. 03.

&&&&&&&&&&&&&

(True Copy)

Rao Chagal

28/5/06

Executive Engineer,

Madura Division.

16

# PUBLIC WORKS DEPARTMENT.

26

No. 379 S.E.

26/702-3

Executive Engineer's Office,
Madura Division,
Dated 28-5-1906

From

ANTOINE RENE DeCHAZAL Esquire,
Executive Engineer,
Madura Division.

To

The SUPERINTENDING ENGINEER,
VI Circle, Trichinopoly.

Enclosure One.

Sir,

With reference to your No.1638 dated 4th May 1906, I have the honour to enclose copy of -- Sergeant Whittaker's report. The levels and levelling books are incomplete and of no value in their present state.

I have the honor to be
Sir,
Your most obedient servant,
R de Chazal
26/5/06
Executive Engineer,
Madura Division.

D.E. 25/5/06

17

6963

CURRENT No. 5
PASSED ON BY.
R. O. 26-6-06
R. C.
REF.
R. K.
D. O.

SUPG. ENGINEER'S OFFICE
1589
29 MAY 1906
P. W. D.
SIXTH CIRCLE.

24

CHIEF ENGINEER
FOR IRRIGATION.
4/7 JUN 1906
2959

12 B

From

THE EXECUTIVE ENGINEER,

MADURA DIVISION.

To

× not in the file

THE SUPERINTENDING ENGINEER,

VI CIRCLE, TRICHINOPOLY.

p 3 of file

No. 379 CE

Dated 28 } May 1906.
Despatched }

ENCLOSURES. 1

*Subject.*

Pambar investigation work — Forwards Serjeant Whittaker's report regarding —

No 2303 CE d/ 31.5.06

Forwarded to the Chief Engineer for Irrigation with reference to his letters Nos 1477 d/ 30.4.06, and No 1823 d/ 19.5.06 —

I have been informed by Mr De Chazal that this report of Sergt. Whittakers is the only paper extant on the question of the diversion of the Paradiar River.

I shall be at Thekadi for a day next month - 11th / 12th -, and will then make further enquiries myself -

S R O Murray
Supg Engr.

31.5.06

Received in a cover addressed to the ...

H. C.
9/6.06

+6 25

CHIEF ENGINEER FOR IRRIGATION
6/7 JUN 1906
2958

27/702-3 27

CURRENT No. 6964
PASSED ON BY
R. C. 26-6-06
U. R. C.
REF.
R. K.
D. O.

Code Class. } D S

# INDIAN TELEGRAPHS.

Monthly Number. }

| | |
|---|---|
| To (Office) Ootacamund | From (Office) Trichinopoly |
| Words 25/3 · Day 4 · Hour 14 · Minute 22 · Official Instructions. | dfd |
| To (Person) Madras Irrigation | From* (Person) S. E. |

Only one report by Whittaker found about pnvar river diversion it was posted to you on 2nd instant

Recd. from · I.N. · At · Hrs. · Mts. by · Sent to · I.N. · At · Hrs. · Mts. by

Telegraph Master.

32 Word Form.

* In foreign telegrams the Person from, if telegraphed, should be written after, but separated from the text.

D.2

Submitted

Rec Record

5/6/06

H E the Governor
The Hon'ble Mr G Stokes C S I 26
The Hon'ble Mr G. S. Forbes C S I

Public Works (Irrigation) 28 DEPARTMENT.

28/702-3

Letter No. 575 I , dated 4th May 1906 , from the Government of India. P.W.D.

*Subject*—

Extension of irrigation on the Periyar ----- Project.

Circulated under Standing Orders for information prior to formal disposal.

11/5/06

11/5/06

14.5.06

A very [illegible]

18/5/06

Seen by the Hon'ble Mr G S Forbes
Please see his initials in India's letter No 5700 d/ 4.5.06

P. W. No. [illegible]
800—25-[illegible]

27

29

PUBLIC WORKS DEPARTMENT.
Irrigation Branch.

29/702-3

D.I.

Instructions have been given by me in W. Aitch to enquire & report as to the investigation already partly carried out for diverting Paradeni River & the S.E has been recently asked to report the results. Levels were also ordered for the proposed lowering of the Watershed Cutting.

As regards the proposal to defer the construction of the R.B. Escape Regulator I have already called for some papers on receipt of which this question can be settled.

As soon as S.E's report is received a Note can be put up for information of H.E & H.M's

[initials]
7/5

H.C. with whom || this call?
[initials]
explained [illegible] 18/[illegible]
[illegible]

P. W. D. Irrigation.

# FOR ORDERS.

30/702-3 30

p 2 of ct file

As regards the Note by Mr. Benton, Inspector General of Irrigation accompanying letter No.575 of 4th May 1906, from India I have to make the following remarks.

p. 3 of ct file

**Para 4 of the Inspector General's Note.**

The Inspector General's figures are based on the original forecast page 156 of Periyar history and have since been modified. The latest figures will be collected and given in the Preliminary Report on possible extension of irrigation desired by India but for the present it is sufficient to state

(a) That reduction in area forecasted is almost entirely in 2nd crop.

(b) That it is exceptional for any ryots and certainly for Madura ryots to attempt a 2nd crop without manuring.

p 4 of ct file

**Para 5 of the Inspector General's Note.**

Any proposals for raising the dam even if found feasible will probably depend upon the results of investigation for increasing the catchment of the reservoir.

— do —

**Para 6 of the Inspector General's Note.**

The necessary levels and estimate for this proposal have been already ordered to be taken.

p 5 of ct file

**Para 7 of the Inspector General's Note.**

The enlargement of the tunnel will probably have to be carried out eventually and the cost will be worked out.

— do —

**Para 8 of the Inspector General's Note.**

The area of possible extension will depend upon the possible increase of supply and storage.

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2/4

31/702-3 31

p 5 of file

## Para 11 of the Inspector General's Note.

A proposal for diverting the Paradise river and thus increasing the catchment of the Periyar reservoir by about 60 sq.miles was partially investigated in 1903 but left incomplete on account of the transfer of the Subordinate in charge. It was ordered last year by the Chief Engineer for Irrigation that the scheme was not to be further investigated but from recent enquiries I am not satisfied that the conclusions on which this order was based ~~that this~~ were fully established and I propose to apply for a temporary survey party to be put on as soon as the fever season and heavy rains are over to complete the investigation and a report can then be made on the points raised by India.

page 6 of file

## Para 13 of the Inspector General's Note.

This is the only point on which orders are required at present. I cannot agree with the Inspector General that it is desirable to postpone the construction of the Right Bank Escape Regulator on the grounds that it may be necessary to raise it hereafter.

The regulator has been sanctioned for two reasons.

(1) To provide additional escape power for floods the present escape being considered insufficient.

(2) To provide extra storage and enable cultivation to be extended by 10,000 acres.

The level of the gate could not be raised until the completion of the raising of the dam, and even if the latter is feasible it will take probably at least five years to get it sanctioned and built. The risk which the Inspector General recommends us to run will, if it is decided to raise the dam, have to be run for five years or more and in the light of

of the recommendations as to surplus provision for the Tungabhadra Project his present advice seems - somewhat inconsistent. If it is found necessary hereafter to raise the level of the Regulator shutter it will be quite easy to do so at moderate cost which cost will have in the meantime been repaid over and over by the increased storage made available by the completion of the regulator as sanctioned. Mr. Benton suggested deferring the construction in March when in Madras but having satisfied myself that it was unnecessary and inadvisable to do so I allowed the work to go on and I recommend that it should be -- completed as soon as possible. Materials for the -- masonry are under collection and arrangements are being made for transport of the Stoney's Shutter - which recently arrived at Madras.

Para 14 of the Inspector General's Note.

H6-7 Circle

I can testify from personal experience as to the discomfort of the present camp-shed at Kuruvanath and I should as Supg. Engineer VI Circle have recommended that a new one should be built had I not expected it to be sanctioned with the Power Scheme.

I now recommend that an estimate for a new shed at a more suitable site be called for

General. The provision of extra storage and extension of the Periyar system is obviously most desirable not only in the interests of irrigation but also in those of the Power Scheme and the necessary investigation will be carried out with as little delay as possible.

India may be informed that a report will be sent after the necessary investigations have been carried out and that the Government do not consider it necessary to defer the construction of the regulator.

H. E. the Governor

JWess 12/6/06

AS 12/6/06

A 12/6/06

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I agree that India may be informed that

1. A Report will be sent after the necessary investigations have been carried out

2. this Govt. considers it undesirable to defer the construction of the regulator.

(It wd. I think be advisable to give fully our reasons for this decision.)

Estimates for a new shed at a more suitable site may be called for

A.J.
13.6.06.

D.9 / 9

A draft letter to India is submitted herewith for approval & also a draft order calling for an estimate for a new Camp shed

A.J.
15/6/06

This must go to the Hon. Mr Stokes

His Excellency the Governor.

The Hon'ble Mr. G. Stokes C.S.I.

Draft approved A.J. 13.6.06

PUBLIC WORKS DEPARTMENT.
Irrigation Branch.

I agree with the draft except para 3 which should be made a separate subject. Before I assent to the building of a rest house at Koravanath I want to know how many travellers have used the place in the last two years and what is the opinion of the Coll. about the need for the place.

[illegible]
19/6/06.

I don't think there will be any record

I.

Draft may now issue omitting para 3 about which a separate ref. will be made to S.E.

[illegible]
20/6/06

[illegible]
20/6

Before writing to S.E. please see if Koravanath is not included in the statements already prepared in W.'s office

Ask W. office
[illegible]

Memo sent to S.E. II regarding the rest house at Koravanath (No. 2281 d/ 25.6.06.)

I
Please see item 19 on page 31 of G.O. No. 1119 W., d/ 18.5.06 placed below
[illegible]
20/6/06

E. I. Form No. 1.

Public Works Department,
Irrigation Branch.

# PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following

G.O. No. 1126 I dated ~~24th February 1905~~ 13th October 1904

G.O. 211 I dated 24th February 1905

G.O. Nos 1020-1021 I dated 28th October 1905

Read also the following:-

To the Supg. Engineer, VI Circle, No. 69 M.D. dated 5th December 1903

From ---------------do--------------- 1014 M.D. dated 11th December 1903

To ---------------do--------------- 71 M.D. dated 24th December 1903

From ---------------do--------------- 94 C.E. dated 20th January 1904

To ---------------do--------------- 587 dated 20th February 1904

Letter from the Govt. of India No. 575 I dated 4th May 1906

Telegram to the Supg. Engineer VI Circle, No. 82-0 dated 17th May 1906

Memo to the ---------------do--------------- 1623 dated 19th May 1906

Telegram to the ---------------do--------------- 108-0 dated 29th May 1906

From the ---------------do--------------- 305 C.E. d/ 31st May 1906

Telegram from the Supg. Engineer VI Circle, dated 4th June 1906.

Order No 702 I. d/ 27.6.06

The letter from the Govt. of India read above will be communicated to the Supg. Engineer VI Circle, for necessary attention with the following remarks:-

(a) Paras 1- 11 of the Inspector-general's Note.

A proposal for diverting the Paradise river and increasing the catchment of the Periyar lake by about 60 sq. miles was partially investigated

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36/702-3
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x In memo No.587,d/20-2-04.
Flag XV

in 1903 and left incomplete. It was ordered last year by the Chief Engineer for Irrigation that the scheme was not to be further investigated, but from recent enquiries it is understood that the conclusions on which this order was based are not fully established. The Superintending Engineer is accordingly requested to apply for the necessary establishment to complete the investigation.

2. Pending further orders the construction of the Regulator for the Right Bank Escape should be proceeded with.

~~3. The Superintending Engineer will submit a plan and estimate for a resthouse in place of the old shed at Kurunegnath.~~ ~~at a more suitable site which will it is thought be found nearer to Gadalur~~

3 ~~4.~~ The following letter will be sent to

M. E. letter No. 703 I dated 27.6.06

DESPATCHED
30 JUL 1906

16/6/06

16/6/06

16/6/06

To the Chief Engr.for Irrgn.
" "Supg.Engr.VI Circle.
" Examiner P.W.Accounts
" Revenue Department

19/6/06

DESPATCHED
23 JUL 1906

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37 15-8

To

The Secretary to the Govt. of India
P.W.D. Simla.

Sir,

Up 1-8 of file

I am directed to acknowledge the receipt of letter No.575 dated 4th May 1906, enclosing a note by the -- Inspector General of Irrigation and to reply as follows:-

2. The investigations suggested by the Inspector General in paras 1 to 11 of his note will be carried out and as soon as they are completed a preliminary report with the particulars mentioned in para 12 will be submitted to the Government of India

page 6 of file

3. With reference to the suggestion of the Inspector General in para 13 that the execution of the Right Bank Escape Regulator should be deferred - until the above investigations have been completed and the question of ultimate expansion has been finally decided, I am to state that this Government consider it undesirable to postpone the construction of the work for the following -- reasons:-

× India's No. 242 W.I / 12.2.05 printed in Govt No 211.I / 24.2.05 flag G.

The regulator has been sanctioned ×

(a) To provide additional escape power for floods, the present escape being considered insufficient

(b) To provide additional storage and enable cultivation to be extended by

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4.

by 10,000 acres. In the event of its being decided to raise the main dam the construction of the regulator would have to be deferred not for another year only, but until the raising of the dam had actually been completed which would be probably not less than 5 years, during the whole of which time the risk of destruction of the dam would have to be run.

5. The design of the regulator is such that there will be no great difficulty in rebuilding it at a higher level whenever the necessity arises and the cost of doing so will in the meantime have been probably repaid several times over by the value of the extra storage obtained. Even if this were not the case, this Government is of opinion that in view of the importance of the interests involved, the cost of rebuilding the work will be amply justified if considered in the light of insurance paid for the safety of the main dam.

16/6/06

16/6/06

DESPATCHED
30 JUL 1906

16/6/06

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36-5-69 VI

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RH

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